

## 1997 Chevrolet S10 Pickup

HEATER SYSTEM 1997 A/C-HEATER SYSTEMS General Motors Corp. - Heater System

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## DESCRIPTION

**WARNING:** To avoid injury from accidental air bag deployment, read and carefully follow all **SERVICE PRECAUTIONS** and **DISABLING & ACTIVATING AIR BAG SYSTEM** procedures in **AIR BAG** article in the **ACCESSORIES/SAFETY EQUIPMENT** Section.

## SYSTEM DESCRIPTION

System blends heated outside air with cooler outside air to obtain desired temperature. Major components of the system are blower motor, air inlet assembly, heater air distributor assembly, and heater control panel.

Temperature control door is controlled by an actuator motor. Vacuum actuators control mode valves to regulate flow of air through heater unit.

## OPERATION

### AUXILIARY HEATER BLOWER SWITCH

A 3-speed blower switch (if equipped) is located on instrument panel, to right of steering column. When switch is in OFF position, auxiliary system does not operate.

### BLOWER SPEED SWITCH

The blower speed switch selects low, medium-low, medium-high or high blower speed.

### MODE SELECTOR

The mode selector directs discharge air to windshield, floor, or dash outputs, as desired by driver.

### TEMPERATURE CONTROL SELECTOR

The temperature control lever or knob controls discharge air temperature in all mode positions. Full hot position provides maximum heat. Full cold position provides unheated air.

## OPERATING MODES

**NOTE:** To identify heater vacuum selector valve operation, see Fig. 3 .

### VENT Mode

Air is directed to instrument panel outlets.

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#### BI-LEV Mode

Air is directed to instrument panel and floor outlets. A slight amount of air is directed to defroster and side window defogger outlets.

#### HEAT Mode

Air is diverted to floor outlets to heat passenger compartment. A slight amount of air is directed to windshield and side window defogger outlets.

#### BLEND Mode

Air is divided between instrument panel and floor outlets, with a slight amount of air going to defroster outlets.

#### DEF Mode

Air is directed to windshield defroster outlets. A slight amount of air is diverted to floor outlets and side window defogger outlets.

## ADJUSTMENTS

**NOTE:** Information on temperature control cable adjustment not available at time of publication

## TROUBLE SHOOTING

**NOTE:** For Heater System trouble shooting information, see the **HEATER SYSTEM TROUBLE SHOOTING** article. For front (and rear) blower motor trouble shooting information, see the **A/C-HEATER SYSTEM - MANUAL** article.

### TEMPERATURE DOOR MALFUNCTIONING

1. Turn ignition on. Using DVOM, backprobe terminal "B" (Light Blue wire) of heater control module connector C2 to ground. Move temperature control knob from HOT setting to COLD setting, and then from COLD setting to HOT setting. If voltage varies between approximately 1-12 volts, go to step 3).
2. If voltage does not vary as indicated, check for poor connection at heater control module connector C2 (terminal "B") or short to ground/voltage in Light Blue wire. Also check for open Brown wire between heater control module connector C2 and fuse block. If connection and wires are okay, replace heater control module.
3. Using DVOM, backprobe temperature door motor terminal No. 10 (Brown wire) to ground. If battery voltage exists, go to next step. If voltage does not exist, repair open Brown wire between temperature door motor and fuse block.
4. Using DVOM, backprobe between temperature door motor terminal No. 7 (Black/White wire) and terminal No. 10 (Brown wire). If battery voltage exists, go to next step. If voltage does not exist, repair open Black/White wire.

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5. Using DVOM, backprobe temperature door motor terminal No. 8 (Light Blue wire) to ground while moving temperature control knob. If voltage does not vary between approximately 1-12 volts, repair open Light Blue wire. If voltage varies between 1-12 volts, check for binding door or poor connections at temperature door motor. If okay, replace temperature door motor.

## REMOVAL & INSTALLATION

**WARNING:** To avoid injury from accidental air bag deployment, read and follow all **SERVICE PRECAUTIONS** and **DISABLING & ACTIVATING AIR BAG SYSTEM** procedures in **AIR BAG RESTRAINT SYSTEM** article in the **ACCESSORIES/SAFETY EQUIPMENT** section.

### ACTUATOR MOTOR

#### Removal & Installation

Actuator motor is located on top of heater case. Remove instrument panel. Unplug electrical connectors. Remove actuator motor. To install, reverse removal procedure.

### BLOWER MOTOR

#### Removal & Installation

Disconnect negative battery cable. Remove vehicle control module (if equipped). Remove coolant reservoir. Remove cooling tube. Unplug connector. Remove blower motor. To install, reverse removal procedure.

### CONTROL ASSEMBLY

#### Removal & Installation

Remove accessory trim plate. Remove heater control unit retaining screws. Remove heater control unit. Unplug vacuum connectors. Unplug electrical connectors. To install, reverse removal procedure.

### HEATER CORE

**WARNING:** To avoid injury from accidental air bag deployment, read and carefully follow all **SERVICE PRECAUTIONS** and **DISABLING & ACTIVATING AIR BAG SYSTEM** procedures in the **AIR BAG RESTRAINT SYSTEM** article in the **ACCESSORIES/SAFETY EQUIPMENT** section.

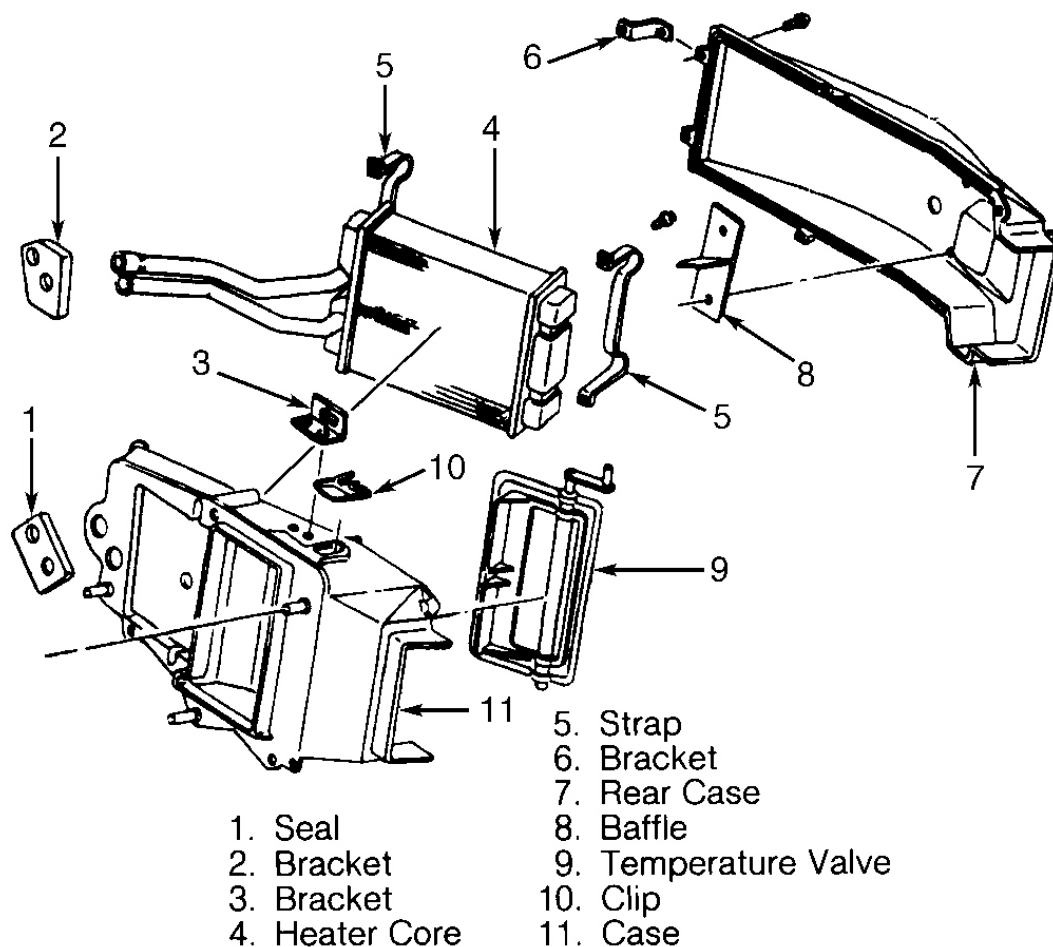
**CAUTION:** Heater core can be damaged if too much force is applied to heater core pipes during hose removal.

#### Removal & Installation

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Disconnect negative battery cable. Drain engine coolant. Disconnect heater hoses at core, and plug core openings. See **Fig. 1** . Remove instrument panel. See **INSTRUMENT PANEL** . Remove rear case screws and rear case. Remove straps. Remove heater core. Remove seals. To install, reverse removal procedure. Fill cooling system. Start engine and check for leaks.



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**Fig. 1: Exploded View Of Heater System Components**  
Courtesy of GENERAL MOTORS CORP.

## INSTRUMENT PANEL

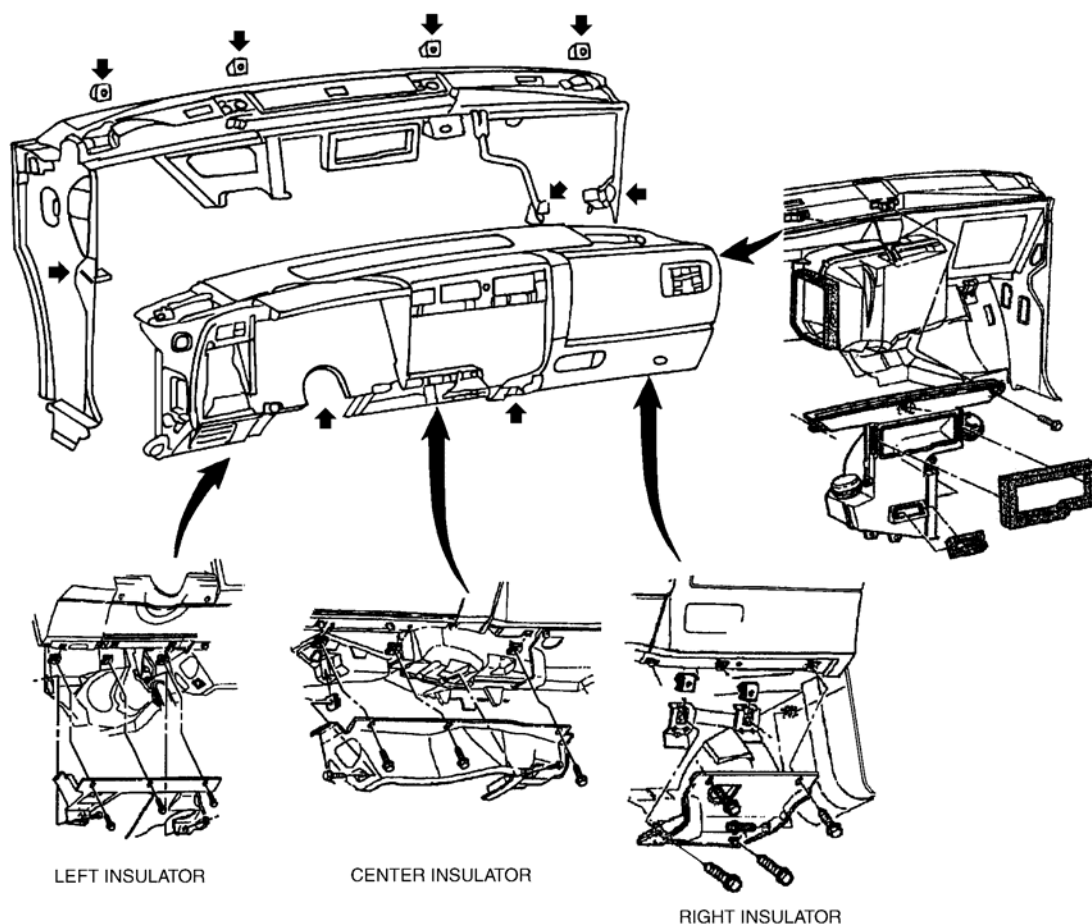
### Removal & Installation

1. Disable air bag system. See AIR BAG RESTRAINT SYSTEM article in the ACCESSORIES/SAFETY EQUIPMENT section.
2. Remove instrument cluster trim plate. Move tilt steering column down (if equipped), set parking brake and move automatic transmission gear selector to low (if equipped)

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3. Remove left underdash hush panel. See **Fig. 2** . Remove Data Link Connector (DLC) and Remote Keyless Entry (RKE) module connectors. Remove center underdash hush panel. Disconnect park brake release cable from instrument panel. Disconnect park brake cable from ratchet mechanism.
4. Remove right underdash hush panel. Remove lighter and accessory outlets, if equipped. Remove courtesy light. Remove knee bolster. Partially pull A/C-heater control panel and radio to disconnect connectors on back of A/C-heater control panel and radio.
5. Remove 4 steering column retaining bolts and lower steering column. Remove speaker and defroster grilles. Remove 9 instrument panel support bolts, including brake pedal bracket support bolt. Remove electrical connectors. Remove instrument panel. To install, reverse removal procedure.



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**Fig. 2: Locating Instrument Panel Components**  
Courtesy of GENERAL MOTORS CORP.

### AUXILIARY HEATER COMPONENTS

**NOTE:** Information not available.

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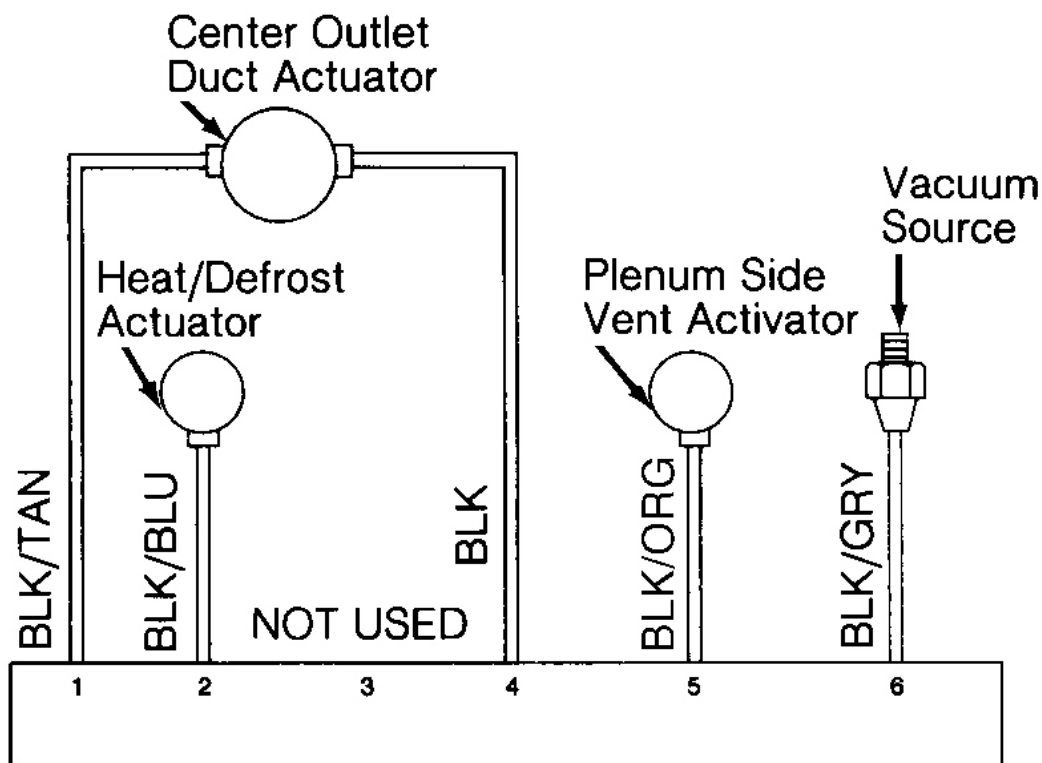
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### TORQUE SPECIFICATIONS

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Application	INCH Lbs. (N.m)
Auxiliary Heater Bolts	13 (1.5)
Blower Motor Bolts	12 (1.4)
Heater Case Bolts	97 (11)

### VACUUM DIAGRAM



A/C - HEATER VACUUM SELECTOR VALVE OPERATING CHART

CONNECTION	PORT	OFF	MAX	NORM	BI-LEV	VENT	HTR	BLEND	DEF
DEFROST	1	VENT	VAC	VAC	VENT	VAC	VENT	VENT	VAC
A/C	2	VENT	VAC	VAC	VAC	VAC	VENT	VENT	VENT
NOT USED	3	VENT	VENT	VENT	VENT	VENT	VENT	VENT	VENT
HEAT	4	VAC	VENT	VENT	VENT	VENT	VAC	VENT	VENT
RECIRC	5	VENT	VAC	VENT	VENT	VENT	VENT	VENT	VENT
SOURCE	6	VAC	VAC	VAC	VAC	VAC	VAC	VAC	VAC

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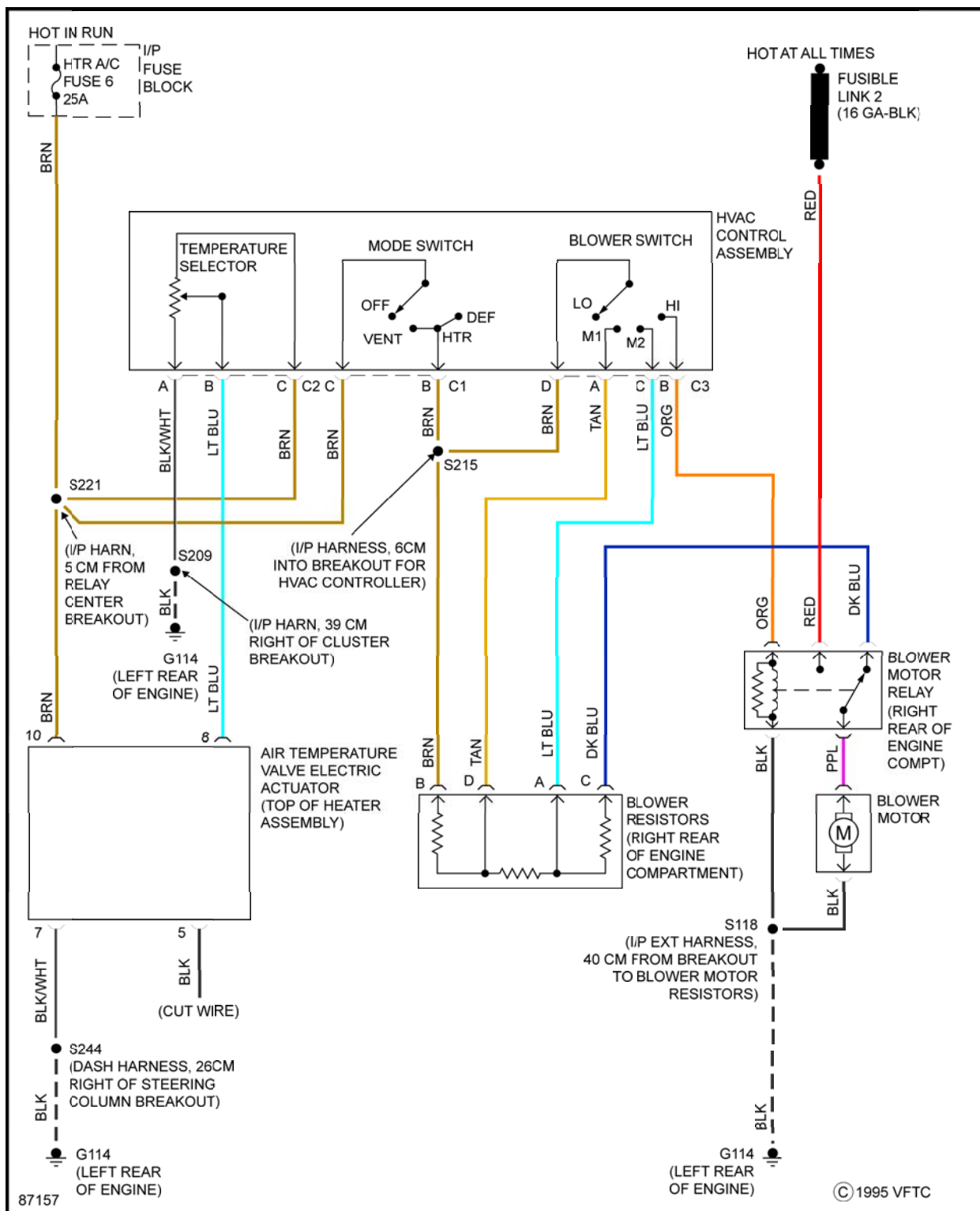
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**Fig. 3: Heater System Vacuum Diagram**  
Courtesy of GENERAL MOTORS CORP.

## WIRING DIAGRAM

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**Fig. 4: Heater System Wiring Diagram**